DOCUMENT RESUME

ED 286 924 TM 870 564

AUTHOR Miles, Matthew B.
TITLE Innovative Methods for Collecting and Analyzing Qualitative Data: Vignettes and Pre-Structured Cases.
PUB DATE Apr 87
NOTE 17p.; Paper presented at the Annual Meeting of the American Educational Research Association (Washington, DC, April 20-24, 1987).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Case Studies; *Data Analysis; *Data Collection; Elementary Secondary Education; Evaluation Methods; Evaluation Problems; Field Studies; Interprofessional Relationship; Interviews; *Qualitative Research; *Research Methodology; Research Problems
IDENTIFIERS Data Display; *Prestructured Cases; *Vignettes

ABSTRACT

Two innovative methods for collecting and analyzing qualitative data are vignettes and pre-structured cases. Vignettes are descriptions of situations or problems written by a professional, with a suggested outline and comments provided by a researcher. Advantages of this method are strength of impact of the written descriptions and efficiency of use of researchers' time; limitations are possible bias or reluctance on the part of the professional, and necessity of a good working relationship between professional and researcher. Suggested applications of this technique include formal research, problem solving, and policy planning. Illustrations of the use of this technique in a teacher center show the vividness of descriptions, as well as the potential for effective intervention. In the pre-structured case method, the researcher writes a case outline, including a display format, before collecting any data. The data, when collected, are entered directly into the display format. Advantages of this method include efficiency of use of researchers' time, and availability of interim feedback and cross-case analysis. Limitations include necessity of knowledgeable, experienced researchers; and risk of researcher bias and of drawing conclusions too soon. Suggested applications of this method include evaluation studies and studies testing theoretical models. It is also suggested that pairs of researchers be used to limit possible bias and "tunnel vision"; and that transcribed, rather than coded, field notes, be entered. (JGL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED286924

INNOVATIVE METHODS FOR COLLECTING AND ANALYZING QUALITATIVE DATA: VIGNETTS AND PRE-STRUCTURED CASES

Matthew B. Miles
Center for Policy Research

Paper read at Symposium on Examining New Professional Roles: Innovative Methods for Collecting and Analyzing Qualitative Data. American Educational Research Association meeting, Washington, DC, April 1987.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

M. Miles

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TM 870 664

BEST COPY AVAILABLE

INNOVATIVE METHODS FOR COLLECTING AND ANALYZING QUALITATIVE DATA: VIGNETTES AND PRE-STRUCTURED CASES[1]

Matthew B. Miles
Center for Policy Research

Background

Qualitative data are sexy. They attract eager researchers who want to sniff the richness of the real world, to see things in their contexts, to track complex processes over time, and to explain linkages among processes and their associated outcomes. Qualitative reports are juicy, "undeniable" and meaningful to the reader, likely to be well understood and utilized.

But as I've pointed out elsewhere (Miles & Huberman, 1984) the road to qualitative bliss is beset with many bumps and barriers. Data collection is labor-intensive, lasting months or years. Data overload seems almost inevitable. Assuring comparability across sites or cases is difficult; sampling and generalizability issues can be serious. Researcher bias rears its familiar head. And in the absence of clear canons for analysis, one is never quite sure that conclusions reached would be replicable by another researcher using the same data set. Somehow, "You had to have been there" will just not do.

This paper continues in the Huberman & Miles (1984b) style, leaving arcane epistemological debates about qualitative knowing to others. It stresses the importance of method, and full sharing of methodological innovations with colleagues. In brief, I want to describe two innovations for

---

[1] Paper read at Symposium on Examining New Professional Roles: Innovative Methods for Collecting and Analyzing Qualitative Data. American Educational Research Association meetings, Washington, DC, April 1987.

collecting and analyzing qualitative data that have seemed relatively promising. We have labeled them the "vignette" and the "pre-structured case". First, a brief word on the context in which we evolved the methods.

Beginning in 1983, we have been conducting studies in the New York City schools, first focusing on the key skills required for effective performance in the "change agent" role (Miles, Saxl & Lieberman, in press), and then evaluating the work of the New York City Teacher Centers Consortium, a program which places a skilled specialist in a school (actually, 30 different schools, as of now) to support the development of teachers.[2] In these projects, we believed that qualitative methods were crucial in understanding the realities of school improvement and how it can be facilitated. The studies proved to be rather fertile settings for experimentation with new qualitative methods.

Vignettes

Vignettes as we defined them are essentially snapshots---or perhaps mini-movies---of professional practice. They engage the professional directly in reflecting on a recent episode of practice---first describing it, then producing thoughtful explanations.

Procedure. The method involves a collaboration between the professional and a researcher, which works as follows. After a general orientation, usually in a meeting with several professionals, we provide a simple approach and

---

[2] My colleagues in the invention, testing and use of these innovations were Ann Lieberman, Ellen R. Saxl, and Jennifer J. Robinson. I want to express strong appreciation to Myrna Cooper of the New York City Teacher Centers Consortium for her active interest in and continuing support of what we were learning and doing. The pre-structured case also proved very fruitful in the Project on Improving the Urban High School, where my colleagues were Karen Louis, Eleanor Farrar, Sheila Rosenblum, and Anthony Cipollone.

working outline.

The professional is asked to consider a recent situation that had "turned out well", "where your work was successful, where the outcome was good." We suggest situations that have occurred in the past few months, and took a couple of weeks or so to unfold and work out. A typical outline we have used involves the following headings, with brief amplifying comments on each:

The context
Your hopes
Who was involved
What you did.
What happened as a result
What the impact was
Why this happened
Other comments, such as expectations for the future, predictions, learnings, etc.

The professional decides on a situation to be described, makes some notes using the headings, then dictates or writes an account using the headings. This typically takes only an hour or two. Our directions stress non-critical writing ("Do not worry about good language---just describe the situation as realistically as possible. If you have some second thoughts as you go along, just stick them in. Do not worry about having to stay too closely with the outline.")

The researcher makes marginal notes and queries on the typed or transcribed account, and sends it to the professional. The notes and queries are then discussed in a phone call (typically a half hour). Then the researcher produces a revised and expanded version of the vignette, and sends it back to the professional.

After the professional reviews this version for accuracy, and after needed revision and another short phone call, the final version --- de-identified with pseudonyms -- is available for circulation to others

(peers, program managers, readers of evaluation reports, etc.).

In contrast to many methods of qualitative data collection and analysis, the vignette is not especially time-consuming. Altogether, after the orientation meeting (a half hour or so), the procedure requires about 2-3 hours of a professional's time, and about 4 of a researcher's. (The typical vignette using our headings has averaged 10 double-spaced pages, with a range from 6 to 15 pages, which means that if the vignette is dictated (as in most of our cases), about 3-4 additional hours of transcription time are required.) These figures assume use of word processing rather than typing.

Strengths of the method. The vignettes written by Teacher Center specialists using this procedure were typically vivid, direct, and straightforward. Like all stories, they successfully re-evoke the feelings and thoughts accompanying action. I was repeatedly moved by the accounts of what specialists were facing in their schools, and by their imaginative, persistent coping with near-intractable problems. The other papers in this symposium (Lieberman, 1987; Saxl & Robinson, 1987) will bring you more on the content, but I cannot forget some images:

- the initially enthusiastic new teacher whose hopefulness "had turned into depression and despair, a feeling of incompetency and worthlessness as she felt more and more overwhelmed" who with specialist help ranging from "listening" to demonstration of classroom management skills regained her enthusiasm, but this time with "a realistic edge to her voice."
- the gym teacher from Haiti, nearly non-English-speaking, whose classes were running wild until he learned about non-verbal gestures for class control, eye contact, pause time and pacing after a specialist observed and coached him.
- the specialist who helped a group of special education teachers struggling with mastery learning techniques to create a method through which students themselves would write their own texts after a teacher presentation.

- o the high school where "teachers carry erasers around with them because they are stolen daily", the building is "vacated 15 minutes after the last bell", and the staff is composed of "burned out" teachers, a "coterie who blatantly castigate the students, prepare no lessons give no homework", and some who "care earnestly for educational principles and the welfare of their students"; the specialist succeeded in creating active engagement of teachers in professional growth through means ranging from coffee to a rexograph machine to workshops on classroom management and computing skills.

The vignettes are not just vivid, however. They are thoughtful and reflective. The explanations for success offered range widely, from:

- o "I had credibility because I had been a teacher here for many years...I know a lot of the staff as well as the routines and the power structure...and I am a non-judgmental source of assistance."

to:

"I just gave her one thing to try, one thing to do."

and:

- o "His needs to speak more clearly, give more specific directions and improve classroom management skills were correctly identified and met quickly. Meeting his needs increased his sense of safety and gave him back his sense of control--and oriented him toward meeting children's needs."

Finally, as noted, the vignette technique is not demanding of time---nor of respondent skill. Reasonable conceptual clarity, editing skill on the researcher's part, and a collaborative relationship ensure good results.

Limitations. We are now in the third year of using vignettes as part of the Teacher Center program evaluation. Vignettes do have some limitations, we can see. One, of course, is that vignettes with a "success" emphasis like these, and carried out with full researcher-professional collaboration can easily be biased (away from problem situations, for example) and even self-serving (the noble, competent professional without flaws or doubts).

During the current year, we have been experimenting with vignettes that were designed to be relevant to the work of "task forces"---groups working to solve persistent policy problems within the overall program we were studying. Under these circumstances, we saw some feelings of threat and over-exposure to criticism (since the vignettes tended more to be on problems rather than successes); professionals were more reluctant to start the vignette-writing process, and gave somewhat more restricted material.

Lastly, it is clear that supporting vignette production does take certain resources. Most professionals are preoccupied with doing, not documenting and reflecting. Thus, to use vignettes, they seem to need the assistance of someone who (a) has an agreed, legitimate right to help (the researcher, in our case); (b) is somewhat detached from the immediate program system, with no managerial power; (c) is willing to exert moderate pressure to get the job done. It is far from clear that good vignettes can be produced through the efforts of program managers and supervisors.

Implications, applications. In our experience, the vivid, reflective quality of the vignettes has proved very productive when they are used in the context of formal program evaluation, where program managers and external funders can get a concrete idea of what services are being delivered, and what the reasons are for program success.

We have some indications that they can be useful for in-service training of other professionals, who can see clearly what interventions led to what, and why---as well as to realize that "I am not alone." As mini-cases, they can easily be used for diagnostic and intervention practice (for example, by providing the contextual and start situation characteristics, and asking learners to make a diagnosis, plan an intervention, and demonstrate it).

We should note too that the vignette idea has a good deal of research

potential; it goes considerably beyond the "critical incident" technique originally developed by Flanagan (1954). Since a chain of events is described in context, it is possible to see causal influence, and to generalize across vignettes about the dynamics of professional intervention---rather than merely tabulate attributes, traits or skills. Furthermore, we have found it very useful in writing longer case studies of a professional's work to "embed" several vignettes within the case, so that the reader gets a vivid, detailed look at particular work episodes.

Finally, we are cautiously ready to conclude that vignettes can be used to support problem-solving and policy planning, if they are carefully designed and managed.

Pre-Structured Cases

The second innovation I want to discuss is perhaps more controversial. The traditional way of writing case studies from qualitative data has been to collect extensive data through interviews, observation, and available documents, categorize and mark them with a coding scheme (often emergent as the study proceeds), to store the data in retrievable form (cards, notebooks, computer files), then to reduce and analyze the data by largely inexplicit and intuitive means into a narrative. At its best, this process is painstaking, thoughtful, creative---and extremely labor-intensive. (As a personal example, I can cite a three-year study of the formation of a new school (Miles, 1978) that included over 1,000 pages of transcribed and laboriously coded field notes from 150 contacts (office work time about 230 days); writing the final 179-page case study took 45 more days, plus 15 days of revision, with a great deal of stress and despair along the way.)

These concerns led me and my colleague Michael Huberman to seek more

systematic, explicit--and perhaps less labor-intensive---methods for qualitative data analysis. Our work is summarized briefly in Huberman and Miles (1984b) and is laid out in detail in Miles & Huberman (1984). We did a great deal of retrieval of others' work, along with much spontaneous invention in the course of a 12-site study of schools we called Innovation up close (Huberman & Miles, 1984a). We came to believe in certain core ideas:

- Qualitative data can be systematically collected and analyzed in their own terms, without necessarily reducing them to numbers.
- Qualitative studies can be heavily pre-designed and structured, or done emergently, depending on the nature of the topic, available knowledge, investigator familiarity with the substance, and investigator research experience. There are no rules requiring qualitative studies to be unstructured---or structured.
- Qualitative data analyis is actually composed of three inter-related processes: data reduction, or selection and compression of anticipated and available information; data display, or arrangement of reduced data in an ordered, compressed format to permit the third process, conclusion-drawing and verification, which involves a wide range of tactics from raw comparisons to making metaphors to triangulation and testing rival hypotheses.
- Of these, the greatest is display. Getting information into an easily viewable form is the key. No quantitative researcher could survive without scatterplots, correlation matrices, and regressions. Qualitative researchers need equivalently powerful displays (the most promising so far appear to be variously ordered matrices, and networks).

Since the publication of our books, these ideas and associated methods have been used in many different studies, including state programs for effective schools (Odden, Anderson & Farrar, 1986); the administration of Chapter 1 programs (Farrar, Millsap, et al.); managerial learning (Kelleher, Finestein, & Lowy, 1986); primary school reform (Verhagen, Bastiaaans, Corten, Knip & van der Vegt, 1986); and the role of curriculum supervisors (Fullan et al, 1986). They appear to be robust and promising, and developmental, in the sense that researcher isolation and reliance on idiosyncratic analysis methods

is giving way to documentation, explicitness and colleaguely sharing.

It is in that spirit that I describe a recent approach: the pre-structured case. It has been used in our evaluation of the New York City Teacher Centers Consortium (Saxl et al, 1985; Miles et al, 1986), and in the project Improving the Urban High School: Guidelines for Implementation (Miles, Louis, Rosenblum, Cipollone & Farrar, 1986.)

Procedure. The researcher begins by developing a graphic conceptual framework for the study, along with a set of research questions; these typically go through several iterations, influencing each other. For example, in the high school study (see Miles, 1986 for conceptual framework), two of our specific research questions were:

> 6. What barriers, problems and dilemmas were encountered during planning/initiation, and implementation? These may be "inherent" in the nature of high schools and the improvement process, or be conditioned by the local context.
>
> 7. What management and coping strategies were employed to deal with the barriers/problems/dilemmas? Which are technical, which are cultural, and which are political in nature?

This in turn leads to the design of specific instrumentation (most centrally, interviews), structured carefully around the research questions, and formatted so that data can be easily coded and retrieved without extensive search. An associated step is sampling specification--not just in conventional terms of sites or actors, but in terms of the range of site-specific events, settings, times, and processes that need to be included.

> For example, for the problems/coping questions, we wanted a good sample of (a) people in coordinative positions; (b) meetings in which problem-solving and coordination took place; (c) problems encountered at initiation, and during early and later implementation; (d) coping strategies as seen by a wide range of affected roles.

Now we come to somewhat more radical territory. The case outline is written before any data are collected. It includes not only the headings and sections, but detailed display formats, showing precisely what sorts of information will be displayed, and where in the instrumentation and sampling plan the data will come from.

> In our example, the case outline included a matrix that listed problems as rows, sorted into "contextual", "program design" and "inherent" categories. The columns covered the initiation/planning period, and implementation.
>
> A second matrix clustered the problems, row by row, then had columns showing (a) most typical coping strategies used; (b) reasons chosen; (c) consequences; and (d) researcher comments.

The researcher then collects the first round of data. The raw field notes are directly coded, without being transcribed as in the traditional method. Then the researcher, using a word processor, enters data directly into displays, and writes the accompanying analytic text, within the pre-existing outline. Naturally, there will be plenty of "DK"s (don't know) and missing data. Many research questions will only have partial answers. These provide the targets for the next round of data collection.

In successive rounds, this procedure is iterated until data collection, and the fully-analyzed case, are complete. In one of our projects, the procedure was extended further by asking the professional on whose work the case was focused to react directly to successive drafts, making corrections, filling in omissions, and adding interpretations. Thank God for word processing!

How much time does it take? The usual rule of thumb in prior studies is that a day's field work takes, after transcription of notes, another full day, just for coding. To this must be added analysis and writing, in amounts that may become very large---as in my 1978 example. In using the pre-structured

case approach, we found that, early in data collection, a day's field work took another 2 days until the revised case draft was complete. Later, as case length extended, the ratio was about 1 to 3. Thus a brief case (length 50-60 pages) with three one-day site visits took about 8-10 days for analysis and writing. Longer cases (80-100 pages, with 6-8 rounds of data collection) in our high school study occupied about 25 days of analysis. The front-end work required to design the instrumentation and case outline, pro-rated per case, was only two to three days. To these savings can be added the cost of transcription time, which can run as high as 2-3 days per day of field work.

Strengths. The pre-structured case method does save time, and enables predictable budgeting and planning. The case structure serves to target field work effectively, and data overload is less likely. Perhaps most importantly, it reduces analysis anxiety and increases confidence in findings, since the analyst is on top of the data all along, and can check and extend findings with ease. Interim feedback for verification purposes is easy, as are interim reports that may be required by the funding agency.

Such cases also permit rapid and coherent cross-case analysis. In a multiple-case study, the structure of each case is comparable, and standard case-level displays can easily be assembled into cross-case displays.

Limitations. This approach might easily be seen as an example of "blitzkrieg ethnography" (Rist, 1980) and damned out of hand. That would be a serious misunderstanding---the method is systematic and serious, and has repeatedly achieved well-verified cases that multiple observers -- both researchers and respondents — agree are accurate accounts.

But the method does have some important limitations and risks. It can only be used well where (a) one understands the type of research setting (schools, rural communities, police stations, etc.) well; (b) one has a strong

conceptual/theoretical grasp of the phenomena being examined; (c) the research questions for the study are well-defined, not exploratory; (d) the research team has good mutual understanding and trust. Furthermore, it should not be used by inexperienced field workers/analysts (note that in this approach field worker and analyst roles cannot be separated). In short, as with most things that matter, to do it well you have to know what you are doing.

The risks are not small. The researcher can easily overestimate his or her grasp of the phenomena in advance. Tunnel vision can set in; serendipitous findings and rival hypotheses are less likely. The method encourages early conclusion-drawing -- perhaps too early. The chance of undetected researcher bias--both at the data collection and the reduction/conclusion- drawing stages--is much higher. Furthermore, the strategy of direct entry from untranscribed, though coded, field notes makes data reduction a more private process, since colleagues cannot really make sense of my field notes. Audits of the reduction/analysis processes followed are much more difficult.

Implications/applications. The pre-structured case method is in our experience a very fruitful method for use in relatively well-defined studies by experienced researchers where time is not lavish. Our experience has been that it's useful not only for specific evaluation studies, but for studies testing theoretical models, including tests of specific predictions derived from earlier case studies (cf. Miles, Ekholm & Vandenberghe, in press). Its risks can be minimized by using researcher pairs for each case, so that corrective dialogue can take place, or at the least by institutionalizing a "friendly skeptic" role whose mission is to challenge the conclusions in successive drafts.

Furthermore, the idea of direct data entry from coded field notes is not essential to the method. If resources permit, the approach can be used with

fully transcribed data.

The structure of the case can also discourage premature conclusion-drawing, by limiting early versions of the case to explicitly descriptive material, encouraging the use of "reflective remarks" within the text, and including a sub-section in all case chapters devoted to puzzles and unanswered questions.

Once again: we offer these methods not in a spirit of advocacy, but as part of the continuing dialogue we believe must go on about methodology among qualitative researchers. We need to advance each others' confidence in our craft, by telling each other how we proceeded and what we have learned. We are eager to hear from our colleagues.

REFERENCES

Farrar, E., Millsap, M.A., et al (1986). State and local administration of the Chapter I program. Cambridge, MA: Abt Associates. Final Report, NIE-400-85-1017.

Flanagan, J.C. (1954) The critical incident technique. Psychological Bulletin, 51:327-358.

Fullan, M., Park, P., Williams, T., with Allison, P., Walker, L., and Watson, N. (1986) Expectations and realities for supervisory officer positions in Ontario and implications for the future. Toronto: Ontario Institute for Studies in Education.

Huberman, A.M., & Miles, M.B. (1984) (a) Innovation up close: how school improvement works. New York: Plenum.

Huberman, A.M., & Miles, M.B. (1984) (b) Drawing valid meaning from qualitative data: toward a shared craft. Educational Researcher, 13 (5):12-30.

Kelleher, D., Finestone, P., and Lowy, A. (1986) Managerial learning: first notes from an unstudied frontier. Group and Organizational Studies, 2 (3): 169-202.

Lieberman, A. (1987) Documenting professional practice: the vignette as a qualitative tool. Paper read at Symposium on Examining New Professional Roles: Innovative Methods for Collecting and Analyzing Qualitative Data. American Educational Research Association meetings, Washington, DC, April.

Miles, M.B. (1978) Westgate Schools: a case study of two open-space elementary schools. In Final Report to National Institute of Education, Grant NIE-G-74-0051. Designing and Starting Innovative Schools: a Field Study of Social Architecture in Education. New York: Center for Policy Research.

Miles, M.B. (1986) Improving the urban high school: some preliminary news from 5 cases. Paper read at Symposium on Improving the Urban High School: Theory into Practice. San Francisco.

Miles, M.B., Ekholm, M., and Vandenberghe, R. (in press) Lasting school improvement: exploring the process of institutionalization. Leuven, Belgium: Acco. International School Improvement Project, OECD.

Miles, M.B., & Huberman, A.M. (1984) Qualitative data analysis: a sourcebook of new methods. Newbury Park, CA: Sage Publications.

Miles, M.B., Louis, K.S., Rosenblum, S., Cipollone, T., and Farrar, E. (1986) Lessons for implementation. Preliminary Report, Project on Improving the Urban High School. Boston: Center for Survey Research, University of Massachusetts.

Miles, M.B., Saxl, E.R., James, J.A., & Lieberman, A. (1986) New York City Teacher Centers Consortium Evaluation Report, 1985-86. New York: Center for Policy Research.

Miles, M.B., Saxl, E.R. & Lieberman, A. (in press) What skills do educational "change agents" need? An empirical view. Curriculum Inquiry.

Odden, A., Anderson, B., and Farrar, E. (1986) State-supported school improvement strategies: how they work out locally. Paper read at American Educational Research Association meetings, San Francisco.

Rist, R. (1980) Blitzkrieg ethnography: on the transformation of a method into a movement. Educational Researcher, 9(2): 8-10.

Saxl, E.R., Miles, M.B., & Lieberman, A. (1985) New York City Teacher Centers Consortium, 1984-85 Evaluation Report. New York: Center for Policy Research.

Saxl, E.R., and Robinson, J.J. (1987) Using pre-structured cases to examine new professional roles: the outsider looks in. Paper read at Symposium on Examining New Professional Roles: Innovative Methods for Collecting and Analyzing Qualitative Data. American Educational Research Association meetings, Washington, DC, April.

Verhagen, M.F.M., Bastiaans, W.A.J., Corten, J.J.R.M., Knip, J.L., & van der Vegt, R. (1986) Implementatieprocessen in scholen. Nijmegen, Netherlands: Instituut voor Onderwijskunde, Katholieke Universiteit. SVO-projekt 1045, Eindrapport.